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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,419	10/27/2003	Manlio Abele	ABE 40	3356

26267 7590 03/22/2005

JACK OISHER  
200 HIGH POINT DRIVE  
SUITE PH2  
HARTSDALE, NY 10530

EXAMINER

VARGAS, DIXOMARA

ART UNIT PAPER NUMBER

2859

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/694,419

**Applicant(s)**

ABELE, MANLIO

**Examiner**

Dixomara Vargas

**Art Unit**

2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 9, 10 and 12-14 is/are rejected.
- 7) ☒ Claim(s) 2-8 and 11 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. ____.  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                                    |

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 9, 10 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zuk et al. (US 6,600,401 B2) in view of Abele et al. (US 5,798,680 A).

With respect to claims 1 and 12-14, Zuk discloses a magnetic structure for generating a uniform magnetic field capable of implementing NMR imaging of the head of a patient within a region of interest, comprising (Figures 1-4, 9-14, 16-19 and 22):

- a) first and second magnetic structures defining a first cavity having the region of interest and configured to accommodate the head of a patient and defining adjacent the first cavity a second cavity, larger than the first cavity, configured to accommodate the shoulders of the patient when the latter's head is positioned in the first cavity, the first and second magnetic structures being positioned on opposite sides of the first and second cavities and defining a common longitudinal axis through the centers of the first and second magnetic structures (Figures 4 and 8, #4a-#4c and

Art Unit: 2859

#2a-#2c) and providing access from the outside for surgical intervention to the head of the patient when positioned within the first cavity (as seen on Figure 1),

b) each of the first and second magnetic structures comprising a magnetic structure including:

i) an annular conical section of permanent magnetic material and having a narrower end and a wider end connected by inner and outer substantially conical surfaces and a conical axis coincident with the common longitudinal axis, the narrower end being positioned closer to the region of interest than the wider end, the conical section having a first value and a first orientation of remanence (Figures 4 and 8, wherein for example, from #4a-#4c and #2a-#2c with the same axis coincident with the longitudinal axis, the 4a is wider than 4b and 4c which is closer to the region of interest is narrower than 4b),

ii) a pole piece member of ferromagnetic material and positioned within the conical section adjacent and bordering its inner conical surface and having an axis also coincident with the common longitudinal axis, the annular surface of contact between the inner conical surface of the permanent magnetic section and the bordering pole piece member being slightly curved (Columns 27-28, lines 60-67 and 1-11 respectively),

c) the permanent magnetic sections and the pole piece members of the first and second magnetic structures cooperating to produce within the first cavity a substantially uniform magnetic field capable of supporting NMR imaging (Abstract).

In addition, Zuk discloses the claimed invention as stated above except for the shape of the annular curved surface of contact being configured so as to form at that surface an equipotential surface, whereby distortion of the substantially uniform magnetic field is minimized. However, Abele discloses the shape of the annular curved surface of contact being

Art Unit: 2859

configured so as to form at that surface an equipotential surface, whereby distortion of the substantially uniform magnetic field is minimized (Column 10, lines 1-24). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have the annular curved surface of contact being configured so as to form at that surface an equipotential surface as taught by Abele with Zuk's magnetic structure for generating a uniform magnetic field capable of implementing NMR imaging for the purpose of improving the uniformity of the field by filtering out the unwanted harmonics, generated by the opening of a magnet as taught by Abele (Column 6, lines 35-52).

4. With respect to claim 9, Zuk discloses the first and second magnetic structures are configured such that the second cavity surrounds the first cavity and both the first and second magnetic structures are circular symmetric about the common longitudinal axis (Figure 4).
5. With respect to claim 10, Zuk discloses a yoke magnetically connected to the first and second magnetic structures (Columns 27-28, lines 60-67 and 1-11 respectively).

#### ***Allowable Subject Matter***

6. Claim 2-8 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Conclusion***


Art Unit: 2859

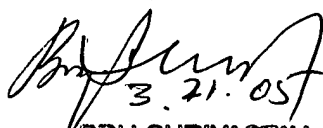
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional prior art cited in the PTO 892 discloses MR systems with multiple annular magnets.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dixomara Vargas whose telephone number is (571) 272-2252. The examiner can normally be reached on Monday to Thursday from 8:00 am. to 4:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Dixomara Vargas  
Art Unit 2859  
March 19, 2005

  
3.21.05  
BRIJ SHRIVASTAV  
PRIMARY EXAMINER